

Appendix O

**Hale Avenue Resource Recovery Facility 13 Month Compliance Statement
July 1998 Through July 1999**

DISCHARGER: Hale Avenue Resource Recovery Facility

WDID: 9 000 000 031

REPORT FOR: July 1998 Through July 1999

REPORT DUE: August 27, 1999

Signed Under Penalty of Perjury:

Fred C. Rowlen

Laboratory/Industrial
Waste Superintendent

David Hale

Operations
Superintendent

Information Request and Comments

This report provides information requested under Items 1, 2 & 3 in the San Diego RWQCB letter of August 6, 1999. Each subject Item is discussed separately below.

ITEM 1 Asks that a written report be submitted that provides
"An explanation for each effluent limitation violation in
the past 12 months and the steps taken for each violation
to achieve compliance."

Review of Monthly Self-Monitoring Reports for July 1998 through July 1999 show HARRF effluent discharge violations can be grouped into three different and distinct periods which for the purpose of this report are called "Episodes". Each episode is discussed individually below. Attached for reference are copies of Compliance Statements from the HARRF Calendar 1998 Annual Monitoring Report and July 1998 through July 1999 Monthly Monitoring Reports. Also attached are copies of HARRF Total Suspended Solids and CBOD Daily Percent Removal Rate Calculations for July 1998 through July 1999

Episode I. July 21 through August 7, 1998 and August 30 through September 4, 1998.

July 21 through August 7, 1998

On July 20, 1998, operations staff noted that the mixed liquor in the aeration basins was black with white foam. This condition indicated septic conditions. On July 24, 1998, operations staff adjusted the air supply to the aeration basins attempting to balance the air distribution to the system. On July 25, 1998 operations staff noted decreased settleability of solids in the primary clarification units and reduced the raw sludge pumping rates. On July 27, 1998, treatment plant effluent violated TSS Daily Maximum Discharge Limits. On July 29, 1998, treatment plant effluent violated TSS, CBOD and Settleable Solids Daily Maximum Discharge Limits.

Steps taken to achieve compliance included the following: Beginning July 30 and continuing through August 3, 1998, each of the HARRF's four primary sedimentation tanks were drained and cleaned. On July 31 and continuing through August 6, 1998, Vermatek Live-Bacteria product was added at a dosage rate of 100 pounds per day. On August 1, 1998, the air supply to the aeration basins was adjusted by operations staff to supply the maximum volume possible.

August 30 through September 4, 1998

On August 24, 1998, raw sludge pumping rates were curtailed due to lack of capacity in the digesters. This shortfall in available digester capacity is linked to problems in the plate and frame dewatering process. Normal mitigation methods proved ineffective and raw sludge pumping rates were reduced by two thirds through the end of the month. On August 29, 1998, raw sludge pumping rates were zero, dewatering of biosolids through the plate and frame press produced a product too wet to be hauled and operations noted that the mixed liquor in the aeration tanks was very dark with white foam. On August 31, 1998, treatment plant effluent violated TSS Daily Maximum Limits.

Steps taken to achieve compliance included the following: On August 27, 1998, The Escondido-Vista Water Treatment Plant ceased discharge of waste solids to the sewer. Beginning September 1 and continuing through September 10, 1998, 70,000 gallons per day of digester biosolids were trucked to San Diego City's Point Loma Plant. On September 1 and continuing through September 8, 1998, Vermatek Live-Bacteria product was added to the HARRF at a dose rate of 100 pounds per day. On September 9, 1998, digester solids dewatering is provided through use of a rented centrifuge unit through Trimax, Inc. of Alberta, Canada.

The cause for the above limits violations is traced to the septic condition of the mixed liquor first seen on July 20, 1998. Subsequent testing and investigation cause us to believe this condition was caused by the receipt into the HARRF of a slug load of Methyl Ethyl Ketone (MEK). It is believed this lighter than water organic solvent (Specific Gravity = 0.7 g/cc) caused the septic conditions in the aeration basis (black with white foam) and subsequently caused the removal efficiency failure of the plate and frame presses. Further, data indicates that the MEK was purged from the digesters and the HARRF on August 30, 1998 when the inability to remove solids through the plate and frame press caused the digesters to overflow.

Episode II. Start of Phase I Construction at HARRF, November 2 through December 11, 1998.

On November 2, 1998, construction at the HARRF for Phase I upgrades at the facility is initiated. Initial construction activities include rehabilitation of Primary Sedimentation Tank No. 3, demolition of the 1959 plant. An immediate impact to plant operations

occurs as primary sedimentation capability is reduced by 25% and plant chlorine facilities are off-line. On November 4 and continuing through November 9, 1998, primary sedimentation capability at the HARRF is 50% normal capability as Primary Sedimentation Tank No. 2 is down for repairs. This causes TSS and Settable Solids violations to occur. On November 14, 1998, operations staff note decreased solids settling in the secondary clarifiers and TSS effluent concentrations begin to escalate. Filamentous bacteria and poor settling in the secondary clarifiers continues to be prevalent through December 11, 1998

Steps taken to achieve compliance include the following: On November 5, operations staff observe pin floc carrying over the weirs in all five secondary clarifiers, Vermatek Live-Bacteria product is added at a dose of 100 pounds per day for control of filamentous bacteria. On November 9, 1998, primary sedimentation capability at the plant is returned to 75% following repair of Primary Sedimentation Tank No. 2. On November 11, 1998, operations staff initiates the addition of ferric chloride at a dose rate of 25 mg/l at the headworks to enhance primary sedimentation. On November 22, 1998, Alcomer polymer is added along with the ferric chloride at the plant headworks. On December 8, addition of Sodium Hypochlorite to the secondary processes for the control of bulking caused by filamentous bacteria is initiated. On December 11, 1998, polymer is added at the secondary influent splitter box. On December 12, 1998, treatment plant performance returns to normal.

Causes for the above limits violations can be traced to the shortfall of primary clarification capability caused by the breakdown of Primary Sedimentation Tank No. 2 on November 4, 1998 and also to the inability to chlorinate for filamentous bacteria control due to destruction of facilities caused by demolition of the 1959 plant and Phase I construction activities at the HARRF.

Episode III. Start Phase I Construction to Rebuild/Rehabilitate Aeration Basins, June 9 through July 29, 1999

On June 9, 1999, HARRF Aeration Basin No. 2 was taken out of service for rebuilding/rehabilitation and plant capability for this process is reduced to 80% of normal. On June 24, 1999 all digesters are at capacity and raw sludge pumping off-line until next day. Poor mechanical performance by the HARRF plate and frame filter presses are cited as the cause of the problem. The HARRF Effluent Discharge Monthly Average Limit of 25 mg/l for CBOD is exceeded on June 16 and continues to exceed 25 mg/l through August 3, 1999. June and July 1999 CBOD average monthly concentration values equal 27.9 mg/l and 26.4 mg/l respectively.

Steps taken to achieve compliance include the following: On June 26 and continuing through July 9, 1999, HARRF digester biosolids and primary sludge solids are trucked to Point Loma WWTP for disposal. On July 10, 1999, HARRF initiates use of a rented

centrifuge type solids dewatering unit as the main equipment at the plant. On July 15 and continuing through the present, 1999, Vermatek Live-Bacteria product is added at the plant at 25 pounds per day in addition to the normal 25 pounds per day added to the collection system. On July 22, 1999, rebuilding/rehabilitation of Aeration Basin No. 1 is completed and the unit is made operational. On July 29, 1999, Blower No. 1 is started and air to the aeration basins is provided by two blower units (Blowers No. 1 & 2). On July 29, 1999, plant effluent quality returns to normal.

Causes for the above limits violations can be traced to problems associated with digester biosolids removal and mechanical reliability of the facility plate and frame filter presses, and with operation of the HARRF aeration basins at 80% of normal plant capability made necessary during the rebuilding and rehabilitation of Aeration Basins No. 1 & 2. Use of the rented centrifuge dewatering unit and completion of rehabilitation of Aeration Basins No. 1 & 2 coupled with the use of two blower units to supply air have caused effluent quality to achieve compliance with permit limits.

ITEM 2 Asks for the submittal of "A report on construction at the treatment facility that includes the construction schedule and your agency's plan to operate and maintain the plant's operation in compliance with Order No. 94-104 during construction."

The majority of the operating plant facilities needing rehabilitation that would negatively affect process efficiency have been completed. Of the four primary sedimentation tanks, one has already been retrofitted. The experience gained by that work will shorten the time required to complete the rehabilitation of the others. This has also allowed rethinking of the amount of work required and changes incorporated have decreased the time involved. Problems associated with the initial retrofit have been eliminated. The parts to accomplish this task are on-site before the construction starts.

Regular progress meetings are held to review construction efforts and keep work on schedule. Draining sedimentation tanks at night will reduce loading on downstream secondary treatment units. The aeration tanks have been converted using ultra-fine diffuser panels to increase efficiency and should aid significantly to absorb additional organic loading.

The present budget has funds set aside for Phase I/II chemicals to utilize during construction and to offset negative impacts created by facilities being out-of service. Chemicals can be added to the influent flow and during secondary treatment to aid in settling.

The City has retained the services of a consulting engineering company, already familiar with the plant, for recommendations to maintain compliance.

At this time there is no information available on Phase II construction as a contractor has not been selected who will provide detailed construction scheduling.

ITEM 3 Asks for the submittal of "A wet weather flow plan for your facility for this coming winter season while construction is ongoing." Address how plant operations and construction during high flow periods will be modified to ensure against effluent violations and minimize the effects of any effluent violations that do occur.

Firstly, it should be stated that previous experience with the extreme weather periods occurring in 1993, 1995 and 1997 did not cause effluent violations. In fact, the plant maintained high quality effluent with no negative impacts other than high flows.

Elements of this coming winter's wet weather flow plan include the following:

- Regular progress meetings to review construction efforts and keep on schedule.
- Scheduling which sedimentation tank is rehabilitated first will create a time advantage due to effort involved.
- Draining any unit to coincide with low flows to prevent undue hydraulic loading.
- Budget funds available for use of chemicals to aid in treatment and removal efficiencies.
- The City plans to investigate a chemical that has been reported to increase flow capability through pipes by 20-30% with as little as dose as 10-15 mg/l.
- The City and San Elijo Joint Powers Authority plan to flow rate the ocean outfall to verify its capacity.
- No information is available on Phase II at this time as a contractor has not been selected who will provide detailed construction schedules.

